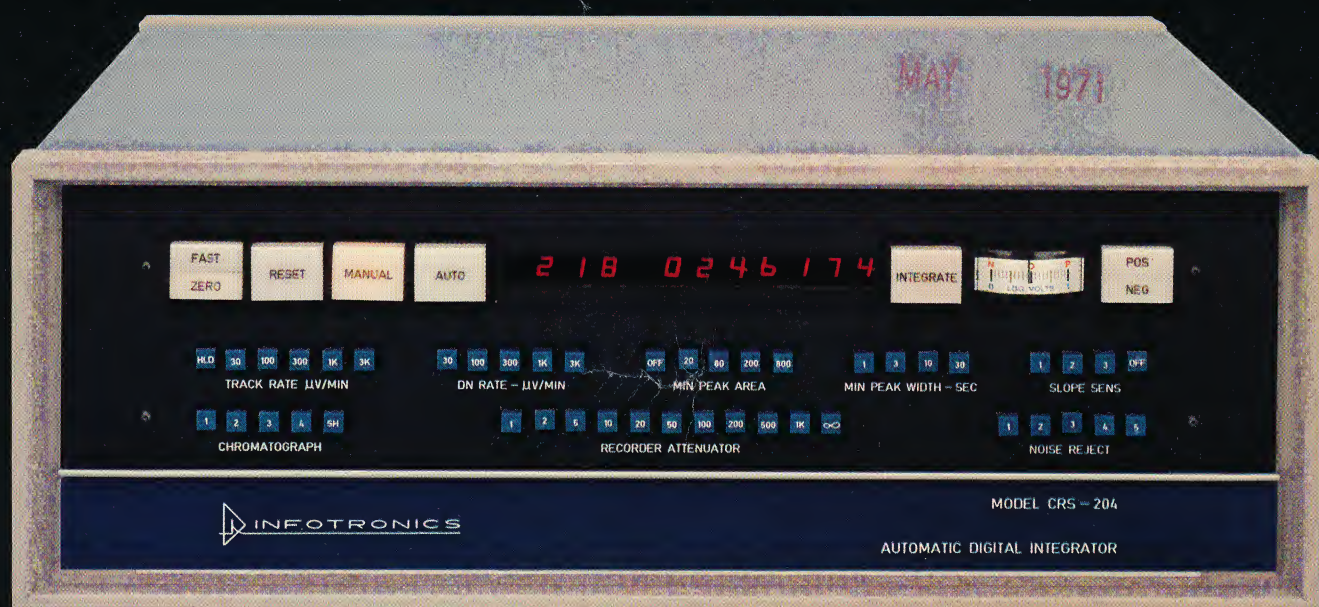


# CRS®-204



## medium-priced digital integrator

**INFOTRONICS**  
CORP.

First in a fourth generation of digital integrators for gas chromatography from Infotronics, the integrator innovators.

Ten years of experience coupled with state-of-the-art circuitry provide added flexibility, unquestioned reliability and additional features not found in any **medium-priced** integrator.

**Push-button** operational simplicity allows quick change

in any of these conditions without compromising the analysis integrity: Automatic Baseline Drift Corrector, Slope Sensitivity, Noise Rejection, Filtering, Minimum Peak Area, Minimum Peak Width, and Recorder Attenuation. All additional controls are available through the "flip down" front access panel.

CRS-204: the **most** integrator for the money.



# input specifications

Range: 0 to 2.0 V  
Linear Dynamic Range: greater than  $10^6$   
Impedance: greater than 10 megohms differential  
Selection: PUSH-BUTTON select any one of four sources (simultaneous selection of output recorder). Provision for remote indication of selected channel.

Mode Control: PUSH-BUTTON SELECTED; Reset, Manual or Automatic  
Time to Auto\*—0 to 99 time units delay before automatic run.  
Time to Reset\*—0 to 900 time units to end of run.  
(Ideal for recycling automatic chromatographs.)

# output specifications

3 time digits (seconds or 1/10 minutes—switch selected\*)  
7 data digits (a 4 time—7 data option available)  
to

Recorder: PUSH-BUTTON attenuator—ten position  
x1 (1 mV in = 1 mV out), x2, x5, x10, etc.  
to x1000 (1 V in = 1 mV out).  
LOGARITHMIC COMPRESSION Selectable\*  
1 V in = 10 mV out at x1 attenuation  
1 V in = 5 mV out at x2 attenuation, etc.

MARKER PULSE — adjustable amplitude, selectable\* either (+) or (−) to occur at start of run, start of integrate, and end of integrate.

BASELINE DISPLAY: momentary display of integrator baseline during first portion of peak. Adjustable\* from 0.5 to 5.0 seconds.

and

Printer: 10 or 11 digits, totalizing

# performance

## peak detector

Slope Sensitivity: Three PUSH-BUTTON selectable settings over a 10:1 range. Better than 0.1  $\mu$ V/sec.  
Minimum Peak Width: PUSH-BUTTON selected for minimum peak width of 1, 3, 10 or 30 seconds.  
(Filtering)  
Minimum Peak Area: PUSH-BUTTON selected for minimum peak area printout of 0, 20, 80, 200 or 800 counts.  
(Digital Filtering)  
Slope Magnitude: Panel meter monitor of balance, noise content, etc.  
Slope Direction: Panel light for positive (+) or negative (−) slope.  
Threshold Level: Switch selectable to initiate integrate at 12, 25, 50, 100 or 200  $\mu$ V above baseline.  
Noise Rejection: Five PUSH-BUTTON selections over 20:1 range from 0.05 to 1.0  $\mu$ V/sec.  
Shoulder Logic: Switch selectable (on/off). Fused peak areas separated at zero slope, leading or trailing.  
False Trip-Reject: Rejects peak if (+) slope followed by 6 second zero slope. Switch selected.

Area Count Memory: Count to digital memory. Allows count restart within 1  $\mu$ sec of integration end.  
Overload Indication: Ideal for non-linear detectors. Printout indication of input voltage (detector output) in excess of signal level selected between 20 mV and 2 V.  
Printer Speed: 1 peak per second (0.6 sec minimum time between peaks).  
Time Maximum: 999 units (seconds or 1/10 minutes).  
Time Memory: Peak crest time to digital memory; output when area count ends.

## general

Circuitry: Solid state with IC's (integrated circuits), MSI (medium scale integrated circuits), etc. Highest reliability through strip cable wiring, mother boards, and other advanced techniques.  
Power: 115/230 V  $\pm$  10% 50/60 Hz 150 W  
Operating Temperature: +10 °C to +40 °C  
Dimensions: Height—6 $\frac{3}{4}$ " (17.4 cm)  
Width—20 $\frac{3}{8}$ " (51.7 cm)  
Depth—17" (43 cm)  
Weight—51 lbs. (23 kg)

## digital baseline corrector

Mode: PUSH-BUTTON selected—hold or automatic selection of tracking rates.  
Tracking Rates: PUSH-BUTTON selection (+) and (−) rates of 30, 100, 300, 1,000, 3,000  $\mu$ V/min.  
Tracking Accuracy:  $\pm$  0.5  $\mu$ V  
Fast Balance Rate: 18,000  $\mu$ V/min.  
Correction Range: −1 mV to +3 mV  
Drift: less than 1  $\mu$ V/hr. during integration

## system

System Linearity:  $\pm$  0.1% of reading  $\pm$  2  $\mu$ V  
Zero Stability: less than 0.5  $\mu$ V/°C drift  
Count Rate: Selectable 2,000, 1,000, 500, 250, or 125 area counts per mV-sec.  
Area Resolution: 0.5  $\mu$ V-sec.  
Area Repeatability:  $\pm$  0.05%  $\pm$  1 count per second (at constant temperature)  
Area Maximum: 9,999,999 counts.

## options

Visual Display: Lighted numbers (light emitting diodes) 10 (or 11) digits of time/data.  
Printer: Heavy duty, totalizing, 10 (or 11) digits; or minimum duty, totalizing, 10 digits (no overload protection indication available).  
Computer Output: Available to match most computer systems.  
Card Punch Output: Optional with printer output.  
Baseline Display: Available as separate, continuous recorder display of integrated baseline (requires two channel recorder).

\*These infrequently adjusted controls are located in the front of the unit behind the blue, "flip down," access panel.

for more information, contact:

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I am interested in learning more about your

☐ CRS-208 Digital Integrator

☐ CRS-204 Digital Integrator

☐ Please have your sales engineer call to set up a demonstration

☐ Send a quotation specifying price, delivery and options on the following integrator(s)

☐ CRS-208

☐ CRS-204

Our institution plans to acquire a digital integrator within

☐ 60 days

☐ 120 days

☐ 1 year

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☐ Automatic Integrators for Gas Chromatography

☐ Automatic Integrators for Amino Acid Analysis

☐ CRS-30 Digitizing Systems

☐ CRS-70 Automatic Data Systems for Colorimetric Analysis

☐ CRS-75S Systems for Sequential Multiple Analysis

☐ CRS-80 Readout System for Atomic Absorption

☐ CRS-160 Readout System for Mass Spectrometry

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NOW.... an **INFOTRONICS** digital integrator

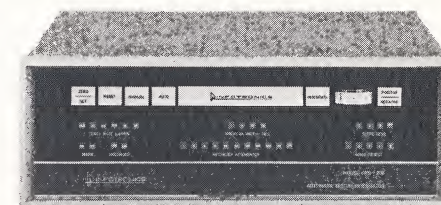
for

**\$2200**

- **INSTANTANEOUS ADJUSTMENT** during runs for maximum performance and the ultimate in meaningful data
- **HIGHEST RELIABILITY** advanced mechanical and circuit design
- **SIMPLIFIED OPERATION** — **PUSH-BUTTON** controls
- **WIDEST FLEXIBILITY** in readout devices and performance characteristics

### CRS®-208

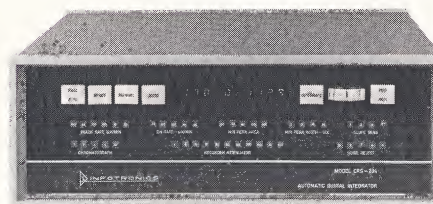
The economy plus digital integrator offers several uncompromised advantages, including threshold level, 0-2 V input range, manual, reset, automatic integrate, switch selectable count rates, and an unbeatable price.



**CRS-208 Electronic Digital Integrator . . . . . \$2200**

**Options:**

Visual Display	\$ 450
P-10 Printer (10 digits)	500
P-10A Printer (10 digits)	250
T-3 Teletypewriter	1100
Retention Time	300
Logarithmic Output	200



### CRS®-204

Medium priced digital integrator. Fourth generation sophistication has extended flexibility, confirmed reliability, outstanding performance and other unparalleled features.

**CRS-204 Electronic Digital Integrator . . . . . \$4750**

**Options:**

Visual Display	\$ 450
P-10 Printer (10 digits)	500
P-11 Printer (11 digits)	750
T-3 Teletypewriter	1100

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